

# Transportation Management Plans

2016 Preconstruction Conference  
November 29 – December 1, 2016



## Who are we?

- A. Road Design
- B. District
- C. Traffic and Safety
- D. Consultant
- E. Other



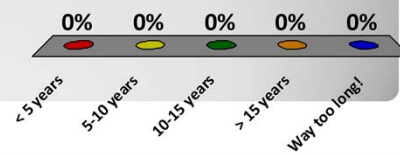
## Have you had WZSM training?

- a. Yes
- b. No



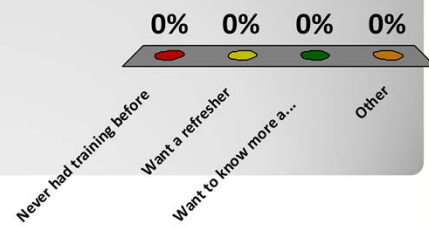
## How long have you been working in Preconstruction?

1. < 5 years
2. 5-10 years
3. 10-15 years
4. > 15 years
5. Way too long!



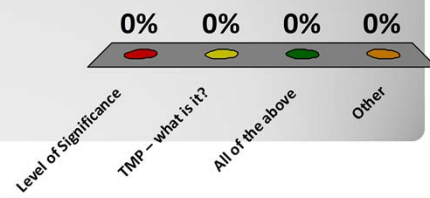
## Why are you here?

- A. Never had training before
- B. Want a refresher
- C. Want to know more about WZSM
- D. Other



## What do you want to learn?

- A. Assign impact level
- B. TMP – what is it?
- C. All of the above
- D. Other





WZSM is all about keeping MDT highways safe and functional during construction projects. There are some important factors to consider during the planning and design stages of project development that can help maximize the safety and mobility of all highway users during construction and maintenance activities.

MDT rolled out new guidance and tools last year.

- Understand the importance and value of WZSM
- Use WZSM guidance document and tools
- Assign impact level to projects
- Understand Transportation Management Plan requirements
- Collect ideas for how to improve the process



## Objectives and Goals

1. Understand the importance and value of WZSM (stress this!!!)
2. Become aware of the WZSM guidance document and available tools
  1. Myself and Jim Wingerter
3. Be able to assign impact levels to projects and apply it to the TMP
4. Understand the required parts of the Transportation Management Plan and considerations for an effective TMP
 

(i.e. Understand the importance of including internal and external partners, Coordination with local events/projects(i.e. rodeos, schools, sports, parades, festivals, harvest, other agency projects, partnering(relationship building), Coordination with MDT construction and maintenance projects (considerations for wide load detours, changes in traffic patterns, other Districts))
1. Collect feedback on how useful the process is and how it can be improved
  1. Is the current process meaningful(useful)?
  2. Is the Level of Significance used for TMP?



- Importance and value of WZSM
- Guidance and Tools
- Identify impact level
- Transportation Management Plans



## Agenda

MDT's **vision** for Work Zone Safety and Mobility is to:

...design...highway construction zones that

- Optimize work zone safety
- Optimize road user mobility
- Minimize stakeholder and environmental impacts



**Importance and Value**

***Vision***

MDT's vision for Work Zone Safety and Mobility is to plan, design, construct, and maintain highway construction zones that **optimize work zone safety and road user mobility while minimizing stakeholder and environmental impacts.**

***Policy***

The MDT will evaluate, design, and ensure the management of construction zone impacts and mitigating measures during planning, project development, Construction, and maintenance operations for Federal-aid projects.

### ***Policy***

The MDT will evaluate, design, and ensure the management of construction zone impacts and mitigating measures during planning, project development, construction, and maintenance operations for Federal-aid projects.



## **Importance and Value**

# WZSM affects all of us!



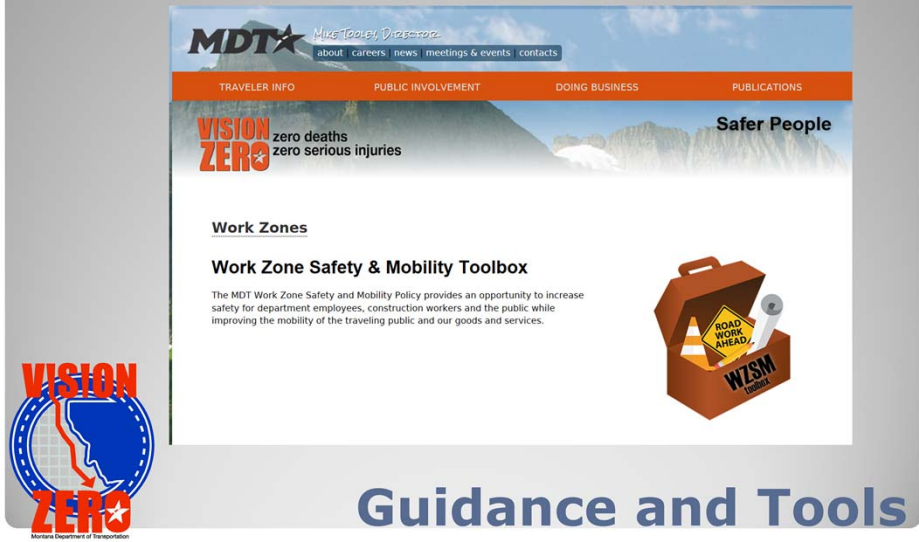
## Importance and Value

1. How has WZTC impacted you, family and friends?
2. How can WZTC impact emergencies?
3. Have driven thru work zones where Maint of Traffic could have been safer or quicker if design or contract requirements were different?
4. **Can improve TC estimates?**

Put yourself, family, friends in a position to commute or travel thru the work zone of your project.

WZSM – It is a toolkit  
planning process to reduce/manage work zone hazards and minimize delay  
and disruption to traffic and nearby properties

- [Work Zones](#)



Open the link and some of the key guidance, design tools and additional information – focus on guidelines document.

One stop shopping for all WZSM needs!

<http://www.mdt.mt.gov/business/consulting/>

**MDT** *Montana Department of Transportation*  
about | careers | news | meetings & events | contacts

TRAVELER INFO PUBLIC INVOLVEMENT DOING BUSINESS PUBLICATIONS

### Design Consulting

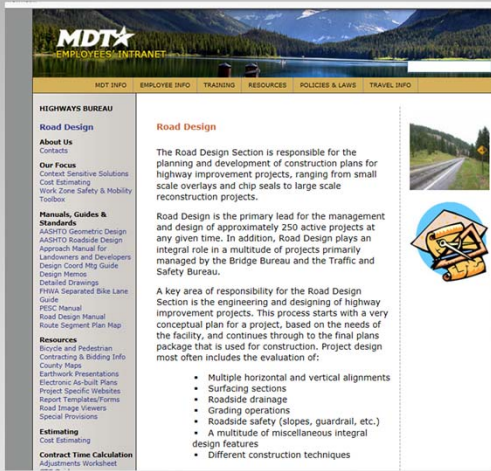
Working with MDT	Manuals & Guides	Tools & Resources	Forms & Templates
Upcoming Projects Current RFQs and RFPs Past RFQs and RFPs Recently Selected Consultants Consultant Selection Process Prequalification Roster Consultant Evaluation Criteria Consultant Mailing List Selection Stats  Contracting & Bidding	Consultant Services Manual  Design Manuals: Road Design Bridge Design Traffic Engineering PEIS More Manuals  Survey Guides Design Memos Standard Specifications Special Provisions Detailed Drawings Road Design Project Guidelines Activity Descriptions Errors & Omissions	FTP Site Flowcharts Maps Cost Estimating Contract Time Calculation Workzone Safety & Mobility CADD Info <b>AGR Sample Plans Coming!</b> Interactive GIS Map Gallery Bridges Environmental PIF / Certifications Context Sensitive Solutions Project Work Type Codes Definitions for Proj. Work Types	DBE, EEO & Title VI Design Consultants Environmental Proof of Authority Right of Way Survey

**VISION ZERO**  
Montana Department of Transportation

## Guidance and Tools

Open link and click on “Workzone Safety and Mobility”

<http://mdtinfo.mdt.mt.gov/highways/roaddesign/>



The screenshot shows the MDT Intranet website. The header includes the MDT logo and navigation links: MDT INFO, EMPLOYEE INFO, TRAINING, RESOURCES, POLICIES & LAWS, and TRAVEL INFO. The main content area is titled "HIGHWAYS BUREAU" and "Road Design". It features a sidebar with links to "About Us", "Our Focus" (including Cost Estimating, Work Zone Safety & Mobility Toolbox, and Design Coord Mtg Guide), "Manuals, Guides & Standards" (including AASHTO Geometric Design, AASHTO Roadside Design, and various manuals), "Resources" (including Bicycle and Pedestrian, Contracting & Bidding, and County Maps), and "Estimating" (including Cost Estimating and Contract Time Calculation). The main text describes the Road Design Section's role in planning and developing construction plans for highway improvement projects, ranging from small scale overlays to large scale reconstruction projects. It also lists a key area of responsibility: the engineering and designing of highway improvement projects, which starts with a very conceptual plan for a project, based on the needs of the facility, and continues through to the final plans package that is used for construction. Project design most often includes the evaluation of:

- Multiple horizontal and vertical alignments
- Surfacing sections
- Roadside drainage
- Grading operations
- Roadside safety (slopes, guardrail, etc.)
- A multitude of miscellaneous integral design features
- Different construction techniques

On the left side of the screenshot, there is a "VISION ZERO" logo with the text "Montana Department of Transportation".

## Guidance and Tools

Open link and click on Work Zone Safety and Mobility Toolbox

- Jim Wingerter - Construction Traffic Control Engineer 454-5897
- Jim Combs – Highways Design Engineer 444-6244



**Guidance and Tools**



# Level of Impact

What is it and why do we care?



Level of Impact

### **What is it?**

- First step in process to plan and manage construction impacts
- Baseline estimate of work zone impacts to users, adjacent properties and businesses during construction.
- Means to establish baseline components to be included in the contract



**Level of Impact**

### **Why do we care?**

- First planning step towards managing construction impacts
- Establishes the amount of detail that is included in the TMP
- Helps establish uniformity with application of WZSM components



**Level of Impact**

Analogous to the work type at project nomination

Determines needs and considerations for TCP, TO, PI

The process helps provide uniform application of TMP components. Establishes criteria ensuring consistent/uniform treatment of projects with similar characteristics.

- The selection of an impact level is flexible.
- Recognize every project is unique.
- Timing, location, potential impacts to roadway users and worker exposure can all affect the impact level.



**Level of Impact**

4<sup>th</sup> bullet      need to be aware of other corridor projects, events, weather, road side environment, types of users, etc.

- Level 1: Significant regional impact for highway users and businesses
- Level 2: Moderate, localized impact to highway users, businesses, and adjacent properties
- Level 3: Little to no impact



**Level of Impact**

Designated level establishes baseline traffic management considerations (TCP, TO, PI) based on anticipated impacts to construction personnel, highway users and stakeholders.

Think of skiing. Do you ski the black diamond run if you are a beginner? Intramural sports(softball, hockey, golf, bowling, hunting, mountain biking, motorcycles) – Do you play recreational or competitive? Different levels of intensity have different Skill, Equipment, Planning and preparation requirements.

### **Work Zone Safety and Mobility Requirements**

A TMP is required for every construction and maintenance project. Each TMP will include up to three components, depending on the level of impact as described above. These components are:

- Traffic Control Plan (TCP)
- Transportation Operations (TO)
- Public Information (PI)


TMP COMPONENTS	Traffic Control Plan (TCP)	Transportation Operations (TO)	Public Information (PI)
LEVEL 1 Significant Projects	Required	Required	Required
LEVEL 2	Required	Include brief description in TCP	Encouraged
LEVEL 3	Required	Not necessary	Consider minor strategies



**Level of Impact**

Different levels have different component requirements and considerations.


- [http://www.mdt.mt.gov/other/webdata/external/cadd/wzsm/WZSM\\_IMPACT\\_CHECKLIST.PDF](http://www.mdt.mt.gov/other/webdata/external/cadd/wzsm/WZSM_IMPACT_CHECKLIST.PDF)



**Work Zones**

**Work Zone Safety & Mobility Toolbox**

The MDT Work Zone Safety and Mobility Policy provides an opportunity to increase safety for department employees, construction workers and the public while improving the mobility of the traveling public and our goods and services.



GUIDANCE	DESIGN TOOLS	DESIGN TRAINING
<ul style="list-style-type: none"> <li>Goals and Objectives, Guidelines, Procedures, and Processes</li> <li>Design Stage Steps for WZSM</li> <li>Transportation Management Plan Development Process</li> </ul>	<ul style="list-style-type: none"> <li><b>Impact Level Checklist</b></li> <li>Transportation Management Plan Worksheet</li> <li>Transportation Management Plan Help Guide</li> <li>Motor Carrier Services (MCS) - Licensing and Permitting Bureau</li> <li>Standard Special Provisions (section 618)</li> </ul>	<ul style="list-style-type: none"> <li>Design Training Plan</li> <li>Training for Designers - Part I (2008)</li> <li>Presentation for Regional Const. Conferences (2008)</li> <li>Training for the EPM Monitoring Class (2008)</li> <li>Training for Designers - Part II - TMP Process (2009)</li> </ul>

Level of Impact

Click on Link

Provide copies of checklist

Review the checklist

**Have you worked on a Level 1 project?**

A. Yes

B. No





**Is the Impact Level Checklist  
being discussed and re-evaluated  
at each milestone?**

A. Yes

B. No



**Is the checklist helpful to establish the impact level?**

A. Yes

B. No



**Have you been involved in a  
TMP meeting?**

A. Yes

B. No



**Is the impact level discussed and considered during the TMP meetings?**

A. Yes

B. No





Browning West

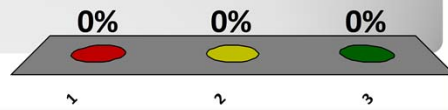
HWY 89 RP 0.0 to 5.6

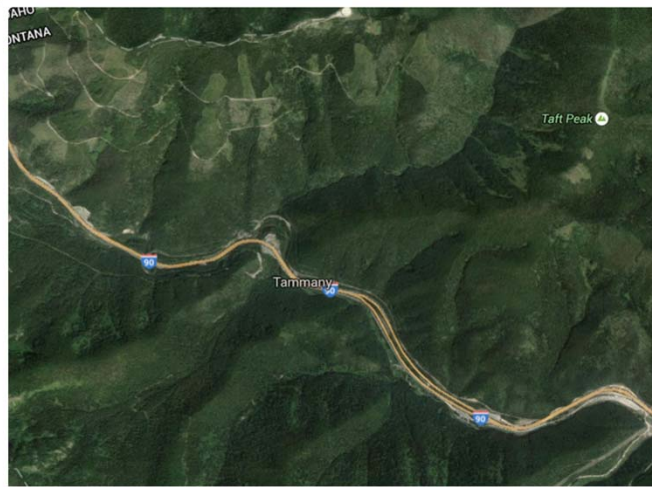
Construction of a PCCP roundabout, reconstruction, storm drain facilities, ADA facilities and PMS.

Level of Impact

**What is the level of impact?**

- A. 1
- B. 2
- C. 3





#### I-90 Taft West

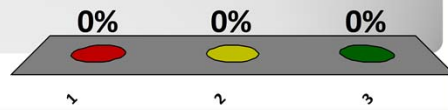
I-90 RP 0.0 to 5.7

Seal and cover with areas of fog seal, pavement markings, polymer overlay, deck joint resealing and class A deck repair.

Level of Impact

**What is the level of impact?**

- A. 1
- B. 2
- C. 3







Stanford E&W

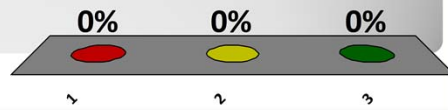
N-57 RP 34.4 to 47.2

Cold Milling, PMS  
overlay, guardrail,  
seal and cover.

Level of Impact

**What is the level of impact?**

- A. 1
- B. 2
- C. 3





Browning West

HWY 89 RP 0.0 to 5.6

Construction of a  
PCCP roundabout,  
reconstruction, storm  
drain facilities, ADA  
facilities and PMS.

Level of Impact

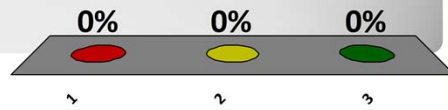
- Classification: Non-NHS Rural Primary Highway
- Location: Transition from rural to Urban
- ADT: 860
- Trucks: 5.7%
- Other factors:
  - A. Intersection of HWY 2 and HWY 89
  - B. Browning Indian Days
  - C. Adjacent high school, residents, businesses, casino/hotel, museum



**Level of Impact**

**What is the level of impact?**

- A. 1
- B. 2
- C. 3



### **I-90 Taft West**

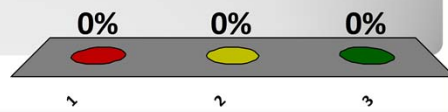
- I-90 RP 0.0 to 5.7
- Seal and cover with areas of fog seal, pavement markings, polymer overlay, deck joint resealing and class A deck repair.
- AADT 6850
- Idaho DOT is doing concrete paving on the west side of Lookout Pass. There will be two-lane, two-way traffic in the eastbound I-90 lanes of Montana to RP 1.5



**Level of Impact**

**What is the level of impact?**

- A. 1
- B. 2
- C. 3

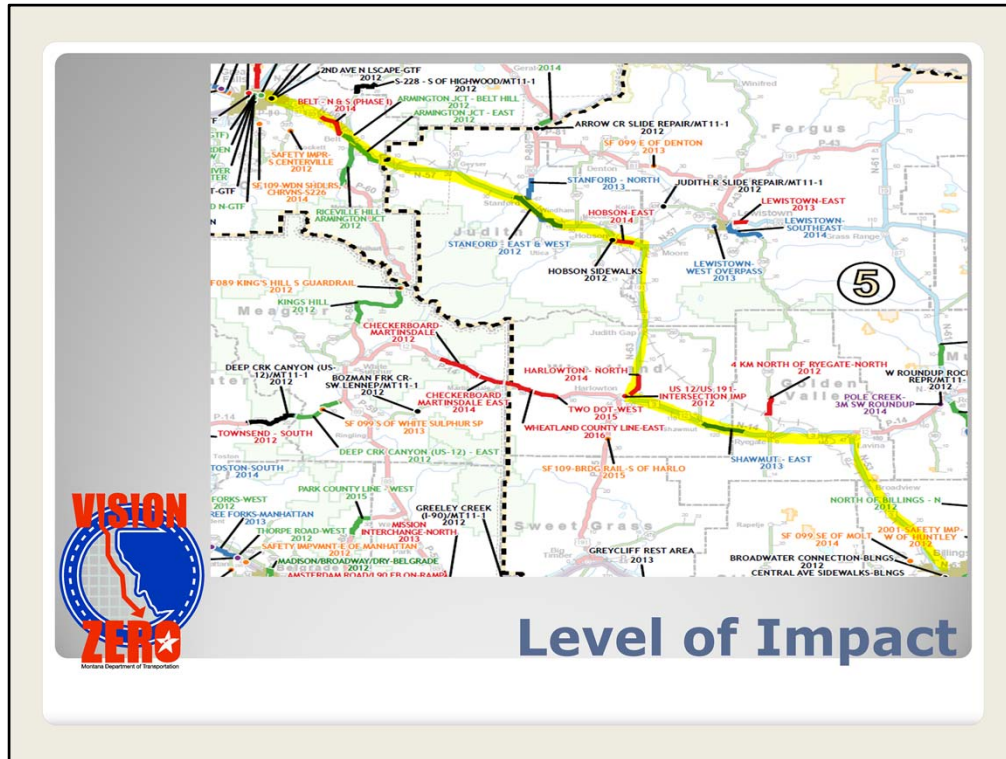


- Classification: Principal Arterial
- Location: Rural thru Stanford and Windham
- ADT: 2110
- Trucks: 20.4%
- Other factors:



**Level of Impact**

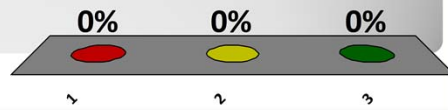




- Major corridor between Great Falls and Billings  
 Multiple projects on corridor in two districts
1. Armington JCT - Belt Hill
  2. Armington JCT – East
  3. Stanford North (2013)
  4. US 12/US 191 intersection imp
  5. Shawmut East (2013)
- NTP August 20, 2012

**What is the level of impact?**

- A. 1
- B. 2
- C. 3



Think about factors influencing level of significance



Stanford E&W

N-  
57 RP 34.4 to 47.2

Cold Milling, PMS  
overlay, guardrail,  
seal and cover.

Level of Impact

### Principles/Considerations

- Recognize planning WZSM can be complex
- Team effort
- Use the worksheet as a guide
- Use the worksheet as a checklist for the PS&E
- Review the PS&E WZSM elements with the design team



### Transportation Management Plans

1. Planning traffic management and WZSM can be complex. The process basically provides a structured approach to consider and plan WZSM and ensure uniformity of applied components. Process encourages communication/coordination/delegation with WZSM team
2. Team effort – takes a team for an effective TMP  
involve preconstruction, construction, maintenance, locals, etc.
3. The worksheet should be used to consider the elements that should be included. Look for the LoS components.
4. Provide the TMP worksheets at milestone reviews and discuss. Use the worksheet to review elements in the PS&E. Ensure complete PS&E package that reflects the components (TCP, TO, PI) appropriate for the LoS.



Browning West

HWY 89 RP 0.0 to 5.6

Construction of a  
PCCP roundabout,  
reconstruction, storm  
drain facilities, ADA  
facilities and PMS.

## Transportation Management Plan

- Classification: Non-NHS Rural Primary Highway
- Location: Transition from rural to Urban
- ADT: 860
- Trucks: 5.7%
- Other factors:
  - A. Intersection of HWY 2 and HWY 89
  - B. Browning Indian Days
  - C. Adjacent high school, residents, businesses, casino/hotel, museum

[Work Zones](#)



## Transportation Management Plan

## Browning West

### • Level of significance 2

#### 31. TRAFFIC CONTROL PLAN & SEQUENCE OF OPERATIONS

A. Description and Materials. Coordinate with school officials to determine when Browning High School is in session for the 2014-2015 school year. Coordinate construction activities to maintain 2-lane, 2-way uninterrupted traffic from the BOP to Browning High School between the hours of 7:00 and 8:30 and 14:30 and 16:00 while high school is in session.

Provide 2-lane, 2-way uninterrupted traffic from BOP to EOP during North American Indian Days in Browning. The dates for 2015 North American Indian Days are July 9 – 12. Coordinate with city and tribal officials to determine if and what construction activities will be allowed during North American Indian Days.

Maintain access to the Fairgrounds at all times.

B. Measurement and Payment. All of the work entailed by this provision will be measured and paid for at the unit quantities and prices bid for the respective items of the contract. Consider all costs associated with meeting the conditions of this provision to be necessary and incidental to the completion of the work and absorb these costs in the cost of other items.



## Transportation Management Plans

- Importance and Value
- Guidance and tools
- Identify impact level
- Transportation Management Plans



## Summary

1. Importance and Value – WZSM affects us all (most important point)
  1. The process is a tool to apply components in a uniform manner
2. Guidance and Tools website, Jim Wingerter and myself
3. Identify impact level
  1. Importance - first step in WZSM process
  2. Re-evaluate at milestones
  3. It is flexible
4. Transportation Management Plans
  1. It is a team effort – include the right team members
  2. Look for the appropriate component elements in the PS&E
  3. Discuss the worksheet and WZSM elements with the design team during milestone reviews.



**Was this helpful?**

A. Yes

B. No

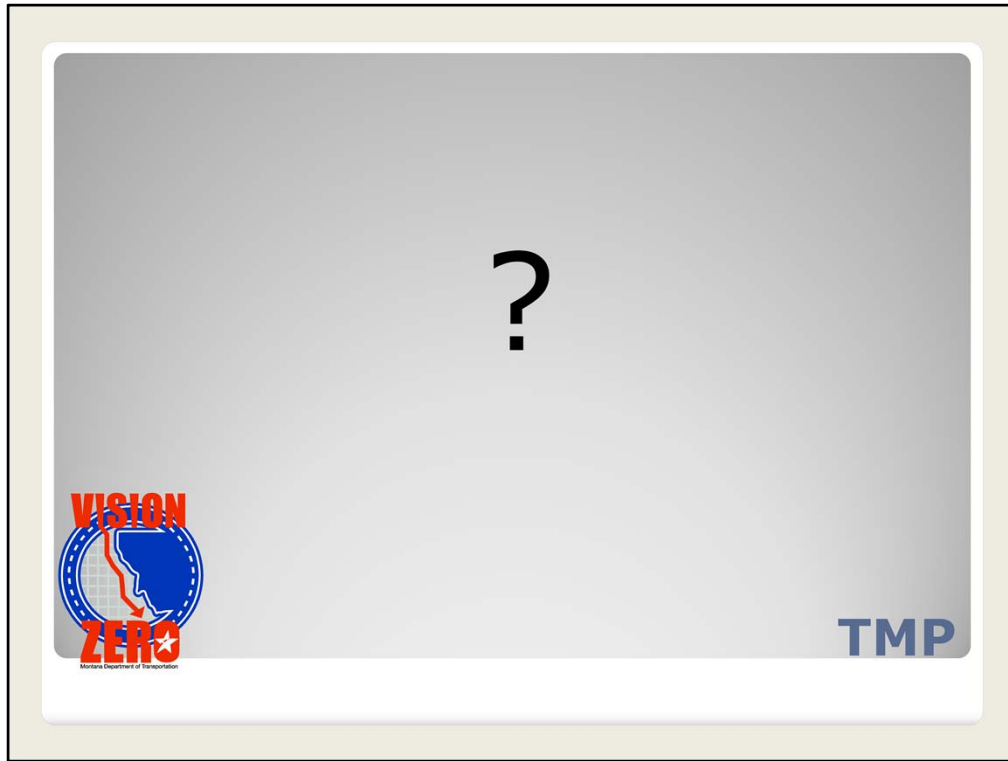


**Are the WZSM principles important?**

A. Yes

B. No





Solicit feedback to improve the process.